

Date: Thu, 28 Jul 94 04:30:16 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #241
To: Ham-Ant

Ham-Ant Digest Thu, 28 Jul 94 Volume 94 : Issue 241

Today's Topics:

 "Tuning" coax feedline lengths (3 msgs)
 204CA dimensions?
 Comet Miracle Baby CH-32
 Feed lines and AC power
 FM auto antenna?
 FREE tower, antenna, beam, rotator, cables
 impedance of full-wave loops
 Modelling 2 wire beverages.
 R.Shack FM > 2M mod - Help
 Recommendations for 2M/70CM base station vertical antenna
 What coax feed to us (2 msgs)

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 27 Jul 94 15:24:53 GMT
From: news.delphi.com!BIX.com!hamilton@uunet.uu.net
Subject: "Tuning" coax feedline lengths
To: ham-ant@ucsd.edu

I was working a fellow in Florida the other day on 10M repeater
who insisted that coax feedlines should be full multiples, if possible,
of the wavelength of whatever frequencies they're going to be used for.
This is the first I've heard this, though I suppose there may be some
truth to it. (I grant that I've seen a Smith Chart and how the
impedance you see looking in changes with distance down the line.)

But in general, is there any real merit to this fellow's claim? Does it really matter? Enough so anyone should care? For example, if you're working 80M and find you really only need 20M of feedline, is there anyone here who'd seriously coil up another 60M of coax, just to have a full wavelength of it?

Also, it's pretty obvious that if yours is a multiband antenna, covering 12, 15 and/or 17M in addition to anything else, getting a common multiple of the wavelengths is going to mean truly prodigious amounts of coax! Think of the line losses!

Anyway, to me this sounds like a lot of hot gas but then again, stranger things have turned out to be true. Comments welcome!

Regards,

Doug Hamilton KD1UJ hamilton@bix.com Ph 508-358-5715
Hamilton Laboratories, 13 Old Farm Road, Wayland, MA 01778-3117, USA

P.S. This wasn't his only "interesting" idea. He also insisted he was buying some more land there in Florida so he could put up a 200 FOOT FREESTANDING tower to get his Butternut vertical higher off the ground!

Date: 27 Jul 1994 16:19:06 GMT
From: overload.lbl.gov!agate!howland.reston.ans.net!usc!nic-nac.CSU.net!
charnel.ecst.csuchico.edu!yeshua.marcam.com!news.kei.com!ssd.intel.com!chnews!
scorpion.ch.intel.com!@lll-winken.llnl.gov
Subject: "Tuning" coax feedline lengths
To: ham-ant@ucsd.edu

In article <hamilton.775322693@bix.com>,
hamilton on BIX <hamilton@BIX.com> wrote:
>

>I was working a fellow in Florida the other day on 10M repeater
>who insisted that coax feedlines should be full multiples, if possible,
>of the wavelength of whatever frequencies they're going to be used for.
>Doug Hamilton KD1UJ hamilton@bix.com Ph 508-358-5715

Hi Doug, the impedance in a transmission line repeats every half wavelength. If the feedline is a full multiple, then (minus losses) you are seeing the impedance of the antenna but that's usually not important. If the antenna impedance is equal to the characteristic impedance of the transmission line then the system is "flat" and any point in the line sees the same impedance so the length is not important and the SWR is 1/1. (Disclaimer-for all practical purposes :-)

Now where his statement would make sense would be when feeding a 50 ohm antenna with 75 ohm coax and driving it with a 50 ohm transmitter. The SWR would be 1.5/1 but if you make the transmission line an integral number of half-wavelengths, your transmitter will see 50 ohms.

73, Cecil, KG7BK, 00TC (Not speaking for Intel)

Date: Wed, 27 Jul 1994 21:50:12 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!hp-pcd!hpcvsnz!tomb@network.ucsd.edu
Subject: "Tuning" coax feedline lengths
To: ham-ant@ucsd.edu

hamilton on BIX (hamilton@BIX.com) wrote:

: I was working a fellow in Florida the other day on 10M repeater
: who insisted that coax feedlines should be full multiples, if possible,
: of the wavelength of whatever frequencies they're going to be used for.

..

: But in general, is there any real merit to this fellow's claim? Does
: it really matter? Enough so anyone should care? For example, if you're
: working 80M and find you really only need 20M of feedline, is there
: anyone here who'd seriously coil up another 60M of coax, just to have
: a full wavelength of it?

Nope. If the SWR is 1:1, you won't be able to tell any difference at the feedpoint, and the only difference will be less loss with a shorter length, as you suggest. If it's not 1:1, all the more reason to keep the loss low by keeping it short. An integer number of halfwaves length causes the impedance at the feedpoint to be (nearly) the same as the load impedance, but there's nothing magic about that. And of course, if you _do_ want to use the line for matching (stubs in series and/or shunt), then you want them specific lengths, accounting for the propagation velocity in the line you use.

73, K7ITM

Date: 27 Jul 94 17:12:55 GMT
From: news-mail-gateway@ucsd.edu
Subject: 204CA dimensions?
To: ham-ant@ucsd.edu

Howdy. Anyone have the dimensions for the 204CA. If you'd be so kind

to e-mail them to me, I'd be ever so grateful.

73 de Walt

.....
73 de Walt Kornienko - K2WK Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
"My mother was of the sky, My father was of the earth,
But I'am of the universe, And you know what that is worth." - J.Lennon

Date: Wed, 27 Jul 1994 16:58:49 GMT
From: elroy.jpl.nasa.gov!usc!howland.reston.ans.net!spool.mu.edu!news.clark.edu!
netnews.nwnet.net!reuter.cse.ogi.edu!hp-cv!hp-pcd!hpcvsnz!davidc@ames.arpa
Subject: Comet Miracle Baby CH-32
To: ham-ant@ucsd.edu

What kind of experiences has anybody had using Comet's CH-32 Miracle Baby HT antenna? I know it won't give me the same performance as the already inefficient stock rubber duck that came with my HT but what can I reasonably expect? Can I accomplish at 2 watts with the CH-32 what I can now do with 5 watts and my stock rubber duck or is the CH-32 a real dummy load?

Dave, KB7QCL

Date: 27 Jul 1994 13:53:58 -0500
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!
hobbes.physics.uiowa.edu!news.uiowa.edu!norand.com!westgj@network.ucsd.edu
Subject: Feed lines and AC power
To: ham-ant@ucsd.edu

Hi all:

We have an run of 170 ft of underground coax at the "farm"/contest station.

We ran 3 runs of RG17, 3 of RG8, and a couple of runs of 16 pair data cable. The installation has been working fine for about 3 yrs now.

We ran the wires in 4in PVC with a slight slope toward the tower end. At the tower end we put in a T to bring up the coax, and ran another 8 ft of PVC out past the tower (and down). We put another T on the end and capped it. The T-hole on the end was pointed down and we filled in gravel under it to give any water that infiltrates the pipe a place to drain.

Since the station is on a hill the whole mess underground is above the water table. I wonder if we will eventually have to replace waterlogged coax. Last fall we pulled out one of the RG17 sections and replaced it with a longer 1. It

showed no sign on the jacket of any water infiltration.

You can get direct burial AC power wire and throw it in the hole next to the PVC. I worry about RF coming back in the AC line, but have not seen any problems. probably due to the superb homebrew antennas ;)

The best part of the deal is now that the grass has grown back we don't have to drag long runs of cable through the mud every time a contest comes around. You really appreciate a real installation after a couple years of temporary occupancy.

Good Luck

Guy
NOMMA
westgj@norand.com

Date: 27 Jul 1994 10:04:31 GMT
From: ihnp4.ucsd.edu!agate!library.ucla.edu!csulb.edu!csus.edu!mercury!
pederson@network.ucsd.edu
Subject: FM auto antenna?
To: ham-ant@ucsd.edu

Hope I am not intruding here with a question that does not pertain strictly to amateur radio. I figure you are the experts so that's why I'm asking you!

I've been driving around for some time with my car antenna broken and the reception has suffered. Is there an especially good antenna for receiving FM broadcasts? (I've got an old Blaupunkt AM/FM radio cassette deck that I bought second hand when my Honda Civic was new in 1983.)

Any suggestion as to commercial antennas or homebrewing welcome!

Thanks from a former electronics/radio hobbyist who occasionally wishes he had the time to tinker again.

If I need to supply more info, please let me know and I'll do so.

--
Paul Pederson
Classics Department Student
San Francisco State University
pederson@sfsu.edu

Date: 27 Jul 1994 01:38:36 -0400
From: agate!howland.reston.ans.net!gatech!concert!bigblue.oit.unc.edu!not-for-mail@ames.arpa

Subject: FREE tower,antenna,beam,rotator,cables
To: ham-ant@ucsd.edu

>Robert.Cunitz@launchpad.unc.edu (Robert Cunitz) writes:

>

>Any reason that this whole setup would be free? You've got a call sign so
>you probably know what it could be worth!

We are redoing the yard and the tower is in the way. I haven't used it for some years. Someone will have to work pretty hard to get it down and cart it away. OTOH, it will solve my problem without me having to pay someone to do it. Quid Pro Quo!!!

--

Launchpad is an experimental internet BBS. The views of its users do not necessarily represent those of UNC-Chapel Hill, OIT, or the SysOps.

Date: Wed, 27 Jul 1994 19:16:55 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!torn!nott!cunews!
freenet.carleton.ca!FreeNet.Carleton.CA!ae517@network.ucsd.edu
Subject: impedance of full-wave loops
To: ham-ant@ucsd.edu

I've been hearing some good things about the Eggbeater antennas. There was a review in QST last year of the commercial product, and more recently an article in CQ.

I've been thinking of homebrewing one to give it a try. I assume it should be fed in a similar manner to a turnstile, with one loop fed 90 degrees out of phase using a quarterwave transmission line.

Could someone with one of those nifty antenna design applications tell me what the input impedance of a SINGLE full-wave square loop would be at 145MHz and 435MHz if constructed from say, insulated #12 house wiring?

I'm hoping it will be around 70 ohms, because that will be easy to match using 1/4 wave coax sections. If not, would going from a square to either a rectangle or a loop bring the input impedance closer to 70 ohms?

tnx in advance for any assistance you may be able to render me.

de va3rr/aa8lu

--

Date: 27 Jul 94 17:14:54 GMT
From: news-mail-gateway@ucsd.edu
Subject: Modelling 2 wire beverages.
To: ham-ant@ucsd.edu

Howdy. Has anyone successfully modelled a two-wire beverage using
ELNEC or MININEC (or even NEC)? I'd appreciate your wisdom. Thanx.

.....
73 de Walt Kornienko - K2WK Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
"My mother was of the sky, My father was of the earth,
But I'am of the universe, And you know what that is worth." - J.Lennon

Date: Tue, 26 Jul 1994 23:19:27 -0400
From: pacbell.com!att-out!gw1!fnnews.fnal.gov!unixhub!lll-winken.llnl.gov!
overload.lbl.gov!dog.ee.lbl.gov!agate!howland.reston.ans.net!torn!news.unb.ca!
coranto.ucsf.mun.ca!@ihnp4.ucsf.edu
Subject: R.Shack FM > 2M mod - Help
To: ham-ant@ucsd.edu

In article <313nml\$lmk@tequesta.gate.net>, Bob Bronson wrote:
> I was following a couple of threads several weeks ago on the mods to the
> Radio Shack FM antenna for 2 meter yagi. Seeing notes from many people
> building these, I never saw the final posts of the results. Would
> someone please e-mail me the final plans for this. It sounded like a
> great project, I'd like to hear how it worked out for you.
>
> Bob Bronson optronic@gate.net KE4PGM

Please post to this newsgroup. I never saw the final plans either.
Also, could you please comment on whether all the RS stores (in Canada)
carry this ant. model. My catalog is very old and it ain't in there.

Thanks,

Yvonne Dawe ydawe@calvin.stemnet.nf.ca

Date: 27 Jul 1994 21:05:11 GMT
From: pa.dec.com!src.dec.com!src.dec.com!ira@decwrl.dec.com

Subject: Recommendations for 2M/70CM base station vertical antenna
To: ham-ant@ucsd.edu

I'd appreciate recommendations on the above.

73,
Ira
KE6KHT

Date: Wed, 27 Jul 1994 15:56:41 GMT
From: spsgate!mogate!newsgate!dtsdev0!kinzer@uunet.uu.net
Subject: What coax feed to us
To: ham-ant@ucsd.edu

Attribution lost, but likely cropley@cbnewsf.cb.att.com writes:

>> Have you ever tried 9880? We had lots of this stuff laying around from
>>an old ethernet network. I was always curious if this would also be very
>>good. it's 50 Ohm. looks like a Urathane dialectic.

[actually cellular polyethelyne]

In article <CtL1ps.146@mv.mv.com> tetrault@mv.mv.com (Mark Tetrault) writes:

> Well, I'm using it for all my vhf/uhf work including a satellite
>array. It is extremely low loss, lower than 9913 but not quite as good
>as hardline.

The Belden catalog only rates 9880 to 50MHz, where its loss is 1.2 db
per 100 ft. At 50MHz, 9913 is only 0.9db (and ratings continue to 4GHz.)
Of course, if the price is right on the 9880, it would be an attractive
option.

-dave

Date: Wed, 27 Jul 1994 04:56:16 GMT
From: world!mv!mv.mv.com!tetrault@uunet.uu.net
Subject: What coax feed to us
To: ham-ant@ucsd.edu

To: cropley@cbnewsf.cb.att.com

In a recent message, you wrote;

Cecil,

>

> Have you ever tried 9880? We had lots of this stuff laying around from

>an old ethernet network. I was always curious if this would also be very

>good. it's 50 Ohm. looks like a Urathane dialectic. solid copper conductor

>(looks about 12 gauge). a foil layer followed by a 95%+ stranded weave

>followed by another foil layer followed by yet another 95%+ stranded weave.

Well, I'm using it for all my vhf/uhf work including a satellite array. It is extremely low loss, lower than 9913 but not quite as good as hardline. Be careful of vampire tap holes in used ethernet cable, and be aware that the outer jacket has less UV protection than 9913, so watch for outer jacket deterioration.

With that caveat, I would NOT hesitate to use it, and I do.

Mark

* UniQWK v3.3a* The Windows Mail Reader

--

Mark D. Tetrault	tetrault@mv.mv.com	
6 Colonial Drive	1:132/169@fidonet.org	
Pembroke, NH 03275	kd1vk @ wa1wok 44.52.7.8	
(603) 485-5852	Have a Nice Day!	

Date: 27 Jul 1994 01:52:29 GMT

From: pacbell.com!well!barrnet.net!agate!howland.reston.ans.net!

europa.eng.gtefsd.com!newsxfer.itd.umich.edu!zip.eecs.umich.edu!yeshua.marcam.com!

news.kei.com!ssd.intel.com!@@ihnp4.ucsd.edu

To: ham-ant@ucsd.edu

References <310mc0\$odu@watnews1.watson.ibm.com>, <3127hb\$oq@chnews.intel.com>,
<CtJroy.FD2@cbfsb.cb.att.com>a.eng.g

Subject : Re: What coax feed to use for 2m antenna

In article <CtJroy.FD2@cbfsb.cb.att.com>,

andrew peter.cropley <cropley@cbnewsf.cb.att.com> wrote:

>

> Have you ever tried 9880? We had lots of this stuff laying around from
> an old ethernet network. Andy Cropley

Hi Andy, don't know about 9880, but the Ethernet cable used here at Intel
(yellow and orange, AT&T 1 and 1A) has almost identical characteristics
to RG-8F which is better than RG-213 and not as good as 9913. The only
disadvantage is that it is NOT UV protected.

73, Cecil, KG7BK, 00TC (Not speaking for Intel)

End of Ham-Ant Digest V94 #241
